



Stuckenia pectinata

Fact Sheet

Description:

Sago pondweed (*Stuckenia pectinata*) is a submersed macrophyte of nearly cosmopolitan distribution. The plant is of worldwide importance as a waterfowl food but also can be a nuisance in irrigation canals and recreational areas. The plant reproduces by many different means, depending on habitat and environmental stress. Several genetic ecotypes have evolved. Most important as waterfowl food are the turions, vegetative propagules rich in carbohydrates that are mostly buried in bottom sediments. In temperate wetlands, most turions sprout in spring, making sago behave as an annual. Drupelets are the sexual propagules of sago and provide a mechanism for sago to survive periods of drought and excessive water salinity. Drupelets can be washed ashore or carried by birds for long distances. Sago decomposes rapidly at senescence, annually in temperate wetlands. It has long, narrow, thread-like leaves that taper to a point. The slender stems are abundantly branched so that the leaves appear in bushy clusters that fan out at the water's surface. The sheathing base of the leaves has a pointed tip that aids in its identification when it is not flowering. The slender rhizomes are long and straight.

Distribution:

Sago Pondweed is widely distributed in the United States, South America, Africa and Europe, and its value to waterfowl make it the most important SAV's in North America. Sago is mostly found in semi permanently or permanently flooded mixosaline lacustrine, palustrine, and riverine wetlands < 2.5 m deep, where fetches are not large or currents are < 1 m/s. Sago seems to prefer stable water levels but can tolerate significant water level fluctuations. Among the Potamogetons, only sago tolerates high salinity, pH, and alkalinity, but it fares poorly among specialist taxa in acidic or nutrient-poor waters. Sago is highly tolerant of eutrophic waters, and it can be the only species of submersed macrophyte present in heavily polluted sites. Sago grows in nearly all bottom substrates. Turbidity is the factor that most frequently limits sago growth.

Sago often occurs in monotypic stands but can grow with many other submersed and emergent macrophytes. Dominance by sago in certain wetlands sometimes alternates with dominance by other submersed macrophytes when salinities or other environmental factors change. Sago also can be associated with a large variety of unattached filamentous, planktonic, or epiphytic algae. Increased turbidity caused by planktonic algae often is responsible for lowered sago production. Less common biotic limiting factors are organic pollutants and consumption and uprooting by waterfowl and fish.

Reproduction:

Reproduction in sago pondweed is by both seed formation and vegetative reproduction.

Sexual:

Sexual reproduction occurs during early summer by formation of a spike of perfect

flowers that appear like beads on the slender stalk. Pollen is released from the flowers and floats on the water resulting in fertilization. The developing seeds remain on the rachis of the spike until autumn when they are dispersed in the water. **Germination** rates are generally low, making vegetative reproduction more significant.

Asexual:

Vegetative reproduction happens in two ways. Starchy tubers are produced at the ends of the underground **rhizomes** and **runners**. Another type of tuber and form in the leaf axils at the end of the leaf shoots. These structures occur singularly or in pairs and are later released and sink to the substrate. After over wintering, both kinds of tubers are capable of forming new plants in spring.

Importance:

In the Chesapeake Bay region, sago pondweed is found growing in waters that are fresh to moderately brackish. It is capable of tolerating waters of high alkalinity and seems to be associated with sediments that are of silt-mud composition. Because it's long rhizomes and runners provide a strong anchorage to the substrate, sago pondweed is capable of enduring strong currents and wave action better than most SAV species. Sago provides food or shelter for amphibians, reptiles, fish, and mammals. The greatest value of sago in North America is as food for migrant and staging waterfowl, primarily diving ducks and swans. Sago beds also provide habitat for a large complex of invertebrates (an important food source for young waterfowl), but direct consumption of living sago by invertebrates is negligible.